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## RECENT LITERATURE

**Hornaday, William T.** THE MINDS AND MANNERS OF WILD ANIMALS. A BOOK OF PERSONAL OBSERVATIONS. New York: Charles Scribner's Sons. Pp. i-x, 1-328, illust. \$2.50. May, 1922.

The *Minds and Manners of Wild Animals* is "a book of personal observations" by one who has given sixty years to the sympathetic study of the creatures about which he writes. The result is a remarkably interesting description of the behavior of a wide variety of vertebrates under various conditions in nature or in captivity. Quotations are notably few in number. The author well proves the truth of his assertion that "To the inquirer who enters the field of animal thought with an open mind, and free from the trammels of egotism and fear regarding man's place in nature, this study will prove an endless succession of surprises and delights." Every page bears witness to this fact. Doctor Hornaday has not allowed his interest and enthusiasm to run away with his common sense and good judgment. He keeps in mind his own dictum that "In studying the wild-animal mind, the boundary line between Reality and Dreamland is mighty easy to cross. He who yields to seductive reasoning, and the call of the wild imagination, soon will become a dreamer of dreams and a seer of visions of things that never occurred. The temptation to place upon simple acts of animals the most complex and far-fetched interpretations is a trap ever ready for the feet of the unwary. It is better to see nothing than to see a lot of things that are not true." . . . . "The student must not deceive himself by overestimating mental values. If an estimate must be made, make it under the mark of truth rather than above it. While avoiding the folly of idealism, we also must shun the ways of the narrow mind, and the eyes that refuse to see the truth. Wild animals are not super-human demigods of wisdom; but neither are they idiots, unable to reason from cause to effect along the simple lines that vitally affect their existence." . . . . "Brain-owning wild animals are not mere machines of flesh and blood, set a-going by the accident of birth, and running for life on the narrow-gauge railway of Heredity. . . . . Some animals have more intelligence than some men; and some have far better morals."

The long-debated question of the reasoning power of animals is answered by Hornaday in a very positive manner. He says: "Yes. Animals do reason. If any one truth has come out of all the critical or uncritical study of the animal mind that has been going on for two centuries, it is this. Animals do reason; they have always reasoned, and as long as animals live they never will cease to reason." And again, "The wild animal must think, or die."

The book as a whole is divided into four sections. First, there is "A Survey of the Field" in which, following certain introductory statements and generalizations, there is a discussion of the temperament and individuality of wild animals, in which temperament is subdivided into six types, "the morose, lymphatic, sanguine, nervous, hysterical, and combative," and a comparatively long list of the larger mammals is given under these heads. The language of animals is discussed in a chapter which covers a range from frogs to primates. As language, the author considers four sorts, vocal, pictured, written, and sign. "The higher wild animals express their thoughts and feelings usually by sign language, and rarely by vocal sounds. Their power of expression varies species by species, or

tribe by tribe, quite as it does among the races and tribes of men." In his discussion of "The Most Intelligent Animals," Hornaday concludes that "the Chimpanzee is the most intelligent of all animals below man," though his account of the famous gorilla, John Daniel, leaves the reviewer in doubt as to whether, at least in that individual case, the palm should not have been awarded to the gorilla. The orang is put second and the elephant third. The remarkable manifestations of intelligence in the horse and dog are ascribed to their long association with man. "The Beaver manifests, in domestic economy, more intelligence, mechanical skill, and reasoning power than any other wild animal."

The chapter on "The Rights of Wild Animals" sounds the note so often and so forcibly presented in the previous works of the author. He pleads that "toward wild life, our highest duty is to be sane and sensible, in order to be just, and to promote the greatest good for the greatest number." The chapter concludes with twenty-six articles of "The Wild Animals' Bill of Rights."

The second section of the book is entitled "Mental Traits of Wild Animals," and includes discussions of "The Brightest Minds among American Animals," wherein "the prize for greatest cunning and foresight in self-preservation" is awarded to the common brown rat. "The championship for keen strategy in self-preservation belongs to the musk-oxen for their wolf-proof circle of heads and horns." The wolverine is considered to display the greatest cunning, with the gray wolf and the grizzly bear not far behind. "Among the hoofed and horned animals of North America the white-tailed deer is the shrewdest in the recognition of its enemies, the wisest in the choice of cover, and in measures for self-preservation."

"Keen Birds and Dull Men" is an interesting comparison of the brightest of the feathered tribes with three of the lowest tribes of mankind. The conclusion is reached that "the highest animals intellectually are higher than the lowest men." . . . . "If the whole truth could be known, I believe it would be found that the stock of ideas possessed and used by the groups of highly-endowed birds would fully equal the ideas of such tribes of simple-minded men as those mentioned." The chapters on the mental status of the orang-utan, chimpanzee, gorilla, and elephant are among the most valuable and interesting of the book. Space forbids a detailed account of their contents, and in fact they must be read in their entirety to be fully appreciated. The reader will emerge quite in sympathy with the conclusion that "the study of this ape's mind (Peter, a chimpanzee) is a subject fit, not for the animal psychologist, but for the child psychologist." "The Wisdom of the Serpent" is a chapter to be most highly commended. Certain aphorisms are worthy of quotation. "A fool and his snake are soon parted." "If your police record is clear, you can sleep safely in the sage-brush." "The largest snakes of the world exist only in the human mind." "Men do far more fighting per capita than any snakes yet discovered."

By no means the least valuable chapter is that on "The Training of Wild Animals." "It is incontestably true that dull and stupid animals can learn little, and perform less. . . . . Really, the brain, the memory and reason must enter into every animal performance that amounts to anything worth while."

The author's point of view in the last two sections on the higher and lower passions of wild animals is set forth in such words as these, "Wild animals *have*

moral codes, and . . . . on the average they live up to them better than men do to theirs." "The crimes of captive animals are many, but the crimes of free wild animals are comparatively few." In his discussion of the play of animals Hornaday expresses a commendable wish when he says, "Very sincerely do we wish that at least one of the many romance writers who are so industriously inventing wild-animal blood-and-thunder stories would do more work with his eyes and less with his imagination."

The concluding paragraphs of this interesting and stimulating volume are worth quoting as the mature conclusions of one who knows wild animals with an intimacy possessed by few other men living or dead. He says:

"On one side of the heights above the River of Life stand the men of this little world,—the fully developed, the underdone, and the unbaked, in one struggling seething mass. On the other side, and on a level but one step lower down, stands the vanguard of the long procession of 'Lower' Animals, led by the chimpanzee, the orang and the gorilla. The natural bridge that *almost* spans the chasm lacks only the keystone of the arch. Give the apes just one thing—speech,—and the bridge is closed!"

"Take away from a child its sight, speech and hearing, and the whole world is a mystery, which only the hardest toil of science and education ever can reveal. Give back hearing and sight, without speech, and even then the world is only half available. Give a chimpanzee articulate expression and language, and no one could fix a limit to his progress. Take away from a man the use of one lobe of his brain, and he is rendered speechless.

"The great Apes have travelled up the River of Life on the opposite side from Man, but they are only one lap behind him. Let us not deceive ourselves about that. Remember that truth is inexorable in its demand to be heard.

"We need not rack our poor, finite minds over the final problem of evolution, or the final destiny of Man and Ape. We cannot prove anything beyond what we see. We do not know, and we never can know, whether the chimpanzee has a 'soul' or not; and we cannot *prove* that the soul of man is immortal. If man possesses a soul of lofty stature, why not a soul of lowly stature for the chimpanzee? We do not know just *where* 'heaven' is; and we cannot know until we find it. But what does it all matter on earth, if we keep to the straight path, and rest our faith upon the Great Unseen Power that we call God? Said the great Poet of Nature in his ode 'To a Waterfowl,'

"He who from zone to zone  
Guides through the boundless sky thy certain flight,  
In the long way that I must tread alone  
Will lead my steps aright."

This is a work that will be received with approval neither by the "behaviorists" who insist that to know an animal's mind it must be subjected to laboratory tests utterly foreign to its usual life-experiences, nor by the orthodox psychologist who looks upon the human mind as differing in kind from that of lower forms. But to the lover of wild animals in their native haunts it has an appeal that defies over-statement. It is a continuous invitation to come out into the wilds and see for one's self. Doctor Hornaday is to be thanked for having given to naturalists such an interesting and trustworthy account of the results of his many years of association with the life of animals.

—H. H. Lane.